

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 February 2006 (09.02.2006)

PCT

(10) International Publication Number
WO 2006/014025 A1

- (51) International Patent Classification:
G03G 15/08 (2006 01)
- (21) International Application Number:
PCT/JP2005/014793
- (22) International Filing Date: 5 August 2005 (05 08 2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
2004-230523 6 August 2004 (06 08 2004) JP
2004-241566 20 August 2004 (20 08 2004) JP
- (71) Applicant (*for all designated States except US*): **RICOH COMPANY, LIMITED** [JP/JP], 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 1438555 (JP)
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **KURENUMA, Takeroh** [JP/JP], c/o RICOH COMPANY, LIMITED, 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 1438555 (JP) **OGATA, Fumio** [JP/JP], c/o RICOH COMPANY, LIMITED, 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 1438555 (JP) **TERAZAWA, Seiji** [JP/JP], c/o RICOH COMPANY, LIMITED, 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 1438555 (JP) **YAMANE, Masayuki** [JP/JP], c/o RICOH COMPANY, LIMITED, 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 1438555 (JP)

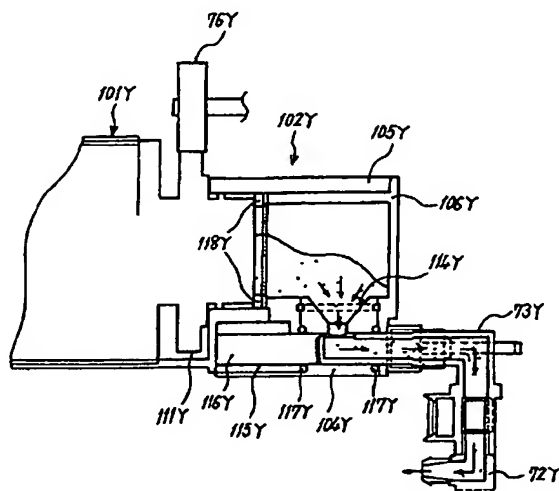
TATSUMI, Kenzo [JP/JP], c/o RICOH COMPANY, LIMITED, 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 1438555 (JP) **TSUDA, Kiyonori** [JP/JP], c/o RICOH COMPANY, LIMITED, 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 1438555 (JP) **KITA, Emi** [JP/JP], c/o RICOH COMPANY, LIMITED, 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 1438555 (JP) **TAGUCHI, Nobuyuki** [JP/JP], c/o RICOH COMPANY, LIMITED, 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 1438555 (JP) **NARUMI, Satoshi** [JP/JP], c/o RICOH COMPANY, LIMITED, 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 1438555 (JP) **SUDO, Kazuhisa** [JP/JP], c/o RICOH COMPANY, LIMITED, 3-6, Nakamagome 1-chome, Ohta-ku, Tokyo 1438555 (JP)

(74) Agent: **SAKAI, Hiroaki**, Sakai International Patent Office, Kasumigaseki Building, 2-5, Kasumigaseki 3-chome, Chiyoda-ku, Tokyo 100-6019 (JP)

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM,

[Continued on next page]

(54) Title: TONER CARTRIDGE, IMAGE FORMING APPARATUS, METHOD OF RECYCLING TONER CARTRIDGE



(57) Abstract: An insertion passage 104Y for inserting a suction nozzle 73Y fixed to an image forming apparatus is provided on a holder 102Y, and a connecting passage 114Y that connects the insertion passage 104Y and a toner storage section 106Y of the holder 102Y is provided. After the toner sent from bottle 101Y to the holder 102Y falls towards the connecting passage 104Y, the toner flows into the suction nozzle 73Y through the connecting passage 114Y and is then discharged out of the holder 102Y. An airtightness between the insertion passage 114Y and the suction nozzle 73Y inserted into the insertion passage 114Y is superior than an airtightness between the bottle 101Y and the holder 102Y engaged with the bottle 101Y.



SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN,
YU, ZA, ZM, ZW.

RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.